

Amendments to the Claims

Claims 1-34 (canceled).

Claim 35 (Currently amended): An atomic layer deposition method comprising utilization of one or both of an electric field gradient and a magnetic field gradient within an atomic layer deposition reaction chamber to align non-ionized and electrically neutral molecules during the atomic layer deposition as at least portions of the non-ionized and electrically neutral molecules are incorporated into a material formed over a semiconductor substrate.

Claim 36 (Previously presented): The method of claim 35 wherein a plasma is present in the atomic layer deposition reaction chamber during the incorporation of at least portions of the molecules into the material.

Claim 37 (Previously presented): The method of claim 35 wherein the magnetic field gradient is utilized.

Claim 38 (Previously presented): The method of claim 35 wherein the electric field gradient is utilized.

Claim 39 (Previously presented): The method of claim 38 wherein:

the atomic layer deposition reaction chamber has a lower portion and an upper portion;

the substrate is in the lower portion; and

the electric field gradient is formed by electrically biasing the substrate relative to one or more structures in the upper portion of the atomic layer deposition reaction chamber.

Claim 40 (Previously presented): The method of claim 38 wherein:

the molecules are first molecules;

the atomic layer deposition process comprises provision of second molecules into the atomic layer deposition reaction chamber at a substantially non-overlapping time relative to the first molecules and incorporation of at least portions of the second molecules into the material formed over the semiconductor substrate; and

the electric field gradient is removed from within the atomic layer deposition reaction chamber prior to incorporating at least portions of the second molecules into the material.

Claim 41 (Previously presented): The method of claim 40 wherein the first molecules are ammonia and the second molecules are SiCl₄.

Claim 42 (Previously presented): The method of claim 38 wherein:

the molecules are first molecules;

the atomic layer deposition process comprises provision of second molecules into the atomic layer deposition reaction chamber at a substantially non-overlapping time relative to the first molecules and incorporation of at least portions of the second molecules into the material formed over the semiconductor substrate; and

the electric field gradient remains within the atomic layer deposition reaction chamber during the incorporation of at least portions of the second molecules into the material.

Claim 43 (Previously presented): The method of claim 38 wherein:

the molecules are first molecules;

the atomic layer deposition process comprises provision of second molecules into the atomic layer deposition reaction chamber at a substantially non-overlapping time relative to the first molecules and incorporation of at least portions of the second molecules into the material formed over the semiconductor substrate;

the electric field gradient is in a first configuration during the incorporation of at least portions of the first molecules into the material and is in a second configuration, different from the first configuration, during the incorporation of at least portions of the second molecules into the material.

Claim 44 (Previously presented): An atomic layer deposition method comprising utilization of an electric field gradient within an atomic layer deposition reaction chamber to

align molecules during the atomic layer deposition as at least portions of the molecules are incorporated into a material formed over a semiconductor substrate;

wherein:

the molecules are first molecules;

the electric field gradient is in a first configuration during the incorporation of at least portions of the first molecules into the material;

the first configuration of the electric field gradient comprises an increase of the electric field along a first vector within the atomic layer deposition chamber during the alignment of the first molecules;

the atomic layer deposition process comprises provision of second molecules into the atomic layer deposition reaction chamber at a substantially non-overlapping time relative to the first molecules and incorporation of at least portions of the second molecules into the material formed over the semiconductor substrate;

after the incorporation of at least portions of the first molecules into the material, the electric field gradient is changed to a second configuration in which the electric field increases along a second vector different from the first vector;

the electric field gradient remains in the second configuration during the incorporation of at least portions of the second molecules into the material; and

at least one of the first molecules and the second molecules being non-ionized and electrically neutral during incorporation into the material.

Claim 45 (Previously presented): The method of claim 44 wherein an angular difference between the first and second vectors is about 180 degrees.